

What is claimed is:

1        1. In a communication system in which data is communicated  
2        between a first communication station and at least a second communication  
3        station upon a traffic channel, an improvement of apparatus for facilitating  
4        selection of resource allocation in the communication system, the resource  
5        allocation defined in terms of a first communication indicia and a second  
6        communication indicia, said apparatus comprising:

7                a storage device having memory locations for storing a matrix  
8        defined by values of the first communication indicia and the second  
9        communication indicia, each element of the matrix of an exemplary threshold  
10      value;

11                a comparator coupled to said storage device, said comparator for  
12        comparing a traffic-channel threshold value with at least some of the  
13        exemplary threshold values; and

14                a selector coupled to said comparator, said selector for selecting  
15        the resource allocation responsive to comparisons made by said comparator,  
16        the resource allocation defined in terms of the first communication indicia and  
17        the second communication indicia associated with a selected one of the  
18        exemplary threshold values.

1        2. The apparatus of claim 1 wherein the communication system  
2        comprises a multi-code, multi-rate communication system, wherein the first  
3        communication indicia comprises a coding indicia, and wherein the matrix  
4        stored at said storage device is defined, in part, by values of the coding  
5        indicia.

1           3.     The apparatus of claim 2 wherein the communication system  
2     comprises a CDMA (code-division, multiple-access) communication system  
3     which utilizes Walsh coding with N codes and wherein the coding indicia  
4     which defines, in part, the matrix stored at said storage device defined, in part,  
5     by values of N.

1        4. The apparatus of claim 1 wherein the communication system  
2 comprises a multi-rate, multi-code communication system, wherein the second  
3 communication indicia comprises a modulation coding scheme (MCS) value,  
4 and wherein the matrix stored at said storage device is defined, in part, by  
5 values of the modulation coding scheme.

1           5.     The apparatus of claim 4 wherein each value of the modulation  
2 coding scheme is representative of a level of modulation coding by which data  
3 to be communicated upon the traffic channel is to be encoded.

1        6.        The apparatus of claim 1 wherein the communication system  
2        comprises a radio communication system having network infrastructure,  
3        wherein the first communication station forms a portion of the network  
4        infrastructure and the second communication station comprises a mobile  
5        station, and wherein said storage device at which the matrix is stored is  
6        located at the network infrastructure.

1           7.       The apparatus of claim 6 wherein the network infrastructure  
2   comprises a base transceiver station (BTS) and wherein said storage device is  
3   located at the base transceiver station.

1           8.     The apparatus of claim 1 wherein the traffic channel threshold  
2     value which said comparator compares with at least some of the exemplary  
3     threshold values comprises a value representative of communication quality  
4     levels of the traffic channel.

1           9.     The apparatus of claim 8 wherein communications by the first  
2     communication station to the second communication station are effectuated  
3     upon a forward link, wherein communications by the second communication  
4     station to the first communication station are effectuated upon a reverse link,  
5     and wherein the traffic channel threshold value is representative of  
6     communication quality levels upon the forward link.

1           10.    The apparatus of claim 9 wherein the traffic channel threshold  
2     value is of a level responsive to measurements made by the second  
3     communication station.

1           11.    The apparatus of claim 10 wherein the traffic channel threshold  
2     value is representative of a signal-to-noise ratio on the forward link.

1           12.    The apparatus of claim 1 further comprising a coder and  
2     modulator coupled to said selector, said coder and modulator for coding and  
3     modulating the data to be communicated upon the traffic channel responsive  
4     to values of the first and second communication indicia, respectively,  
5     associated with the selected one of the exemplary threshold values.

1           13.    The apparatus of claim 12 wherein said coder and modulator is  
2     further for performing Walsh-code spreading, the Walsh-code spreading  
3     defined in terms of a number N of Walsh codes by which to spread the data.

1           14. The apparatus of claim 1 wherein the communication system  
2   comprises a multi-user communication system, wherein the at least the second  
3   communication station comprises the second communication station and at  
4   least a third communication station, data communicated between the first and  
5   second communication station, respectively, and between the first and third  
6   communication stations, respectively, upon a shard channel, said apparatus  
7   further comprising a scheduler for scheduling access to the shared channel  
8   upon which to communicate the data between the first and second  
9   communication stations and between the first and third communication  
10   stations.

1           15. The apparatus of claim 14 wherein said scheduler schedules the  
2   access to the shared channel responsive, in part, to the traffic channel  
3   threshold value.

1           16. The apparatus of claim 15 wherein the data communicated  
2   during operation of the communication system comprises packet data, said  
3   apparatus further comprising a timer for timing periods of pendency of packet  
4   data prior to access to the shared channel to communicate the packet data  
5   thereon.

1           17. The apparatus of claim 16 wherein said scheduler schedules the  
2   access to the shared channel further responsive, in part, to the periods of  
3   pendency timed by said timer.

1           18. The apparatus of claim 17 further comprising a buffer for storing  
2   the packets of data, said timer for timing pendency of the packet data at said  
3   buffer.

1           19. The apparatus of claim 17 wherein communications in the  
2 communication system are effectuated at a selected QoS (quality of service)  
3 level and wherein scheduling made by said scheduler is further responsive, in  
4 part, to the selected QoS level.

1           20. In a method for communicating data between a first  
2 communication station and at least a second communication station upon a  
3 traffic channel defined in a communication system, an improvement of a  
4 method for facilitating selection of resource allocation in the communication  
5 system, the resource allocation defined in terms of a first communication  
6 indicia and a second communication indicia, said method comprising:  
7               forming a matrix of exemplary threshold values, the exemplary  
8 threshold values each indexed by values of the first communication indicia  
9 and the second communication indicia;  
10              comparing a traffic channel threshold value with at least some of  
11 the exemplary threshold values of the matrix formed during said operation of  
12 forming; and  
13              selecting, responsive to comparisons formed during said  
14 operation of comparing, the resource allocation, the resource allocation  
15 defined in terms of the first communication indicia and the second  
16 communication indicia associated with a selected one of the exemplary  
17 threshold values.

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1           21. The method of claim 20 wherein the communication system  
2   comprises a multi-user communication system, wherein the at least the second  
3   communication station comprises the second communication station and at  
4   least a third communication station, data communicated between the first and  
5   second communication stations, respectively, and between the first and third  
6   communication stations, respectively, upon a shared channel, said method  
7   further comprising the operation of scheduling access to the shared channel  
8   upon which to communicate the data between the first and second  
9   communication stations and between the first and third communication  
10   stations.